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FOUNDED BY WILLIAM HUNTING, F.R.C.V.S.

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BOARD OF AGRICULTURE—THE CHIEF VETERINARY OFFICER'S REPORT FOR 1912.

In one direction this is one of the most valuable reports the Board has ever issued, in some others it is almost one of the baldest. Its value lies in its excellent account of the foot-and-mouth epidemic of 1912, which occupies all but about 4½ pages of the publication. "Foot-and-mouth" deserves all the space it receives, but the addition of a few more pages upon other diseases would have given the report much more value as a whole.

The matter concerning foot-and-mouth disease, which might have been very confusing to the reader, has been arranged very clearly. All the 1912 outbreaks in this island are divided into three groups—(1) Outbreaks which occurred in cattle from Ireland, or in cattle which had come in contact with the latter. (2) Outbreaks whose origin could not be definitely traced, but which occurred in districts into which cattle from Ireland have been imported in large numbers. (3) Outbreaks in which no connection whatever could be traced between importation of cattle and disease. The single outbreaks in each of these groups are carefully described in detail from the point of view of preventive medicine, special attention being paid to the important work of tracing the infection. Very often, in dealing with an individual outbreak, the reasons which guided the Board in deciding upon the precise rigour of the measures to be adopted are explained, and the report therefore abounds with illustrative examples of practical epizootiology. Some of the outbreaks, as the Sussex ones, are eminently instructive. The Chief Officer calls the final result of the year's work "a triumph for stamping out measures, when rigidly applied from the outset," and the facts justify his claim. But we wish that he had been able to give us some definite facts with regard to "those outbreaks which have been so numerous in recent years, and which we have every right to assume have been imported from the Continent in food stuffs or packing material, or in some other way." So long as our knowledge of the channels of infection from the Continent is so vague as this, we may expect fresh invasions of disease at any time, and it is well for us that our stamping-out measures are reliable.

Incidentally the report reveals that our English methods of veterinary inspection of markets are pitiably inadequate. In some concluding remarks upon the whole of the first group of outbreaks we find:—"It will be observed that most of these outbreaks were due to market infection, and it does not seem open to doubt that in some cases actually diseased animals were exposed for sale in markets. This leads us to ask if the distribution of disease would not have been materially curtailed by provision of more adequate veterinary inspection of local markets? I think the answer must be in the affirmative, and I feel bound to point out that the veterinary inspector of one of the first infected markets informed me that his other duties left him only about forty minutes for the inspection of about 1500 animals in the market." This latter fact would be farcical if it were not also so serious—for the results are by no means confined to foot-and-mouth disease. It seems that some large markets have no veterinary inspection worthy of the name. It might be worth the while of inspectors to call the attention of local authorities to this paragraph in the report—few laymen can fail to appreciate its force.

The report deals with other scheduled diseases briefly, if at all. Sheep scab and parasitic mange are not mentioned. Anthrax receives a little attention, chiefly from the statistical side, and swine fever even less. In the latter connection reference is made to the losses from swine erysipelas, and to the fact that a good method of protective inoculation against it is available, but has not yet been taken up by pig-keepers. In the short laboratory report, we see a mere mention of researches being carried on by the Board upon several diseases—swine fever, epizootic abortion, louping ill, and scrapie. But upon the whole the last few pages of the report are not at all enlightening except as regards glanders.

The section on glanders is valuable from a careful comparison of the progress in 1912, with that of previous years. The Chief Officer points out that in 1912 the proportional decline of the disease received an unexpected check, and adds that the reason is engaging his attention. He finds one partial explanation for the check in the fact that the proportion of recurrent outbreaks in previously infected stables was higher in 1912 than ever before. This, to our mind at least, suggests that owners now keep and re-test old in-contacts more frequently than before; and if that is so the rise in recurrent outbreaks is a good sign. The Mines Act, too, led to the discovery of twelve outbreaks of glanders in 1912.

This section also contains some useful notes upon the proportional results of the mallein test, and the incidence of glanderous post-mortem lesions. If other sections had been as full as that upon glanders, the report would have been one of the most instructive we have ever had. But as it is, simply on account of its invaluable official history of the foot-and mouth epidemic, it is a noteworthy publication, and should be in the hands of every practitioner. The delay in its issue is, of course, accounted for by Sir Stewart Stockman's illness last year.

CLINICAL CASES.

Fœtal Dystokia.

Subject a big shorthorn dual purpose cow, presentation anterior, two fore legs, head doubled back, head could not be reached, so both fore legs were removed at the shoulders—and then we could not touch the head—could feel stifles of calf, but not head. Tracing the neck of fœtus, we cut a hole in the skin and inserted a blind hook. This drew the head forward so that I could get my hand in calf's mouth. Head straightened, calf delivered, and cow did well.

Maternal and Fœtal Dystokia.

Subject: shorthorn heifer, first calf. Presentation anterior, head doubled back, could touch head but could not get it up. Cowman had fixed rope round lower jaw and pulled out the teeth. Could feel a band round calf's head just below the eyes, which I thought was afterbirth; removed it, and much to my surprise it was a circular band on the heifer's womb, about an inch wide, containing two cotyledons. The fore leg was removed and the calf delivered. Heifer killed on my advice.

Horn on Cow's Neck.

While bleeding some pedigree milking shorthorns the other day I came across a small tubercle on the middle third of a cow's neck. The owner thought it was a wart. It was only attached to the skin. With his permission I cut it off and found it to be a perfect little horn, an inch an a half long, and the same shape as the cow's. Instead of a horn core it had a soft matrix, which looked like yellow firm cartilage.

Vomition in the Horse.

On March 17th last I was called to see a "chaser" which had run in our Point-to-Point (Old Berkshire), and found him vomiting all over the box. He was about 12 years old, and had previously won 13 consecutive Point-to-Points. The owner, who was riding him, found he was unwell at the start, and pulled him up after going two fields. On examining his neck I found on the lower left side of the jugular vein—*not œsophagus*—a thickening about an inch long, which felt like a stricture of the vein. The slightest pressure on this would make him arch his neck and "retch" tremendously. As we could not drench him, I gave him a hypodermic of morphia, and said would see him next morning. Next morning I had a telephone message saying the horse was alright, and was going back to Leicestershire by the 10.20 train. Had the thickening been in the œsophagus I could have understood the vomition, but being in the jugular vein it was a complete puzzle to me.

J. H. Parker, M.R.C.V.S.

Faringdon, Berks.

ABSTRACTS FROM FOREIGN JOURNALS

Human and Avian Diphtheria.

F. Arloing has published *(Bull. de Soc. Sc. Vét. de Lyon)* a long article upon this question. A long time before the bacteriological era, observation and clinical and epidemiological knowledge had permitted the supposition that the pseudo-membraneous diseases of poultry could sometimes be transmitted to man. At the present day the question of the relations between human and avian diphtheria is far from being definitely settled.

Avian diphtheria may appear in a per-acute, an acute, or a chronic form. The last named is the most common, and is characterised by pseudo-membraneous exudates, which may appear upon the buccal mucous membrane, and spread from there to the conjunctiva (ocular form) or to the pituitary membrane (nasal form). It may be caused by various microbes, which the author divides into three groups as follows:—1. *Lœffler's bacillus, the agent of human diphtheria.* (2) *Specific microbes, other than the true diphtheritic bacillus*, and (3) *Non-specific microbes.*

It is completely demonstrated that the true diphtheria of man may be transmitted to birds, experimentally or accidentally, by means of cultures or of diphtheritic material. On the other hand, the author reports facts which show that human diphtheria may be transmitted, not only to birds, but also to the pig, dog, and cat.

The bacteriological study of avian diphtheria has sometimes revealed the presence of the true Löffler's bacillus in the subjects, and sometimes that of a bacillus only differing from Löffler's by a lesser degree of virulence or by particular cultural or staining characters. Sometimes other specific microbes have been found, and sometimes, again, others without specificity. The very small microbe described by Bordet and Fally, and considered by them to be the true cause of avian diphtheria, should be remembered.

If we consider, on the one hand, the multiplicity of germs which have been described, and by means of which the affection has been reproduced, and, on the other hand, the variable results—positive in certain cases and negative in others—which have been obtained by means of the anti-diphtheritic serum, it appears logical to admit that there is not *one* avian diphtheria, but a number of avian diphtherias. According to the author, there exists in the bird (1) a true diphtheria, due to Löffler's bacillus, and (2) in addition to this true diphtheria, diphtheroid or pseudo-diphtheric affections which are related to true diphtheria by the similitude of their clinical symptoms, but nevertheless are due to microbes which have nothing in common with Löffler's bacillus.

The author draws a sharp distinction between the *diphtheroid exudate*, which is common to all cases of avian diphtheria, and the true *diphtheritic false membrane*, the formation of which seems to require the presence of Löffler's bacillus.

In man, the *true diphtheritic false membrane*, when fully developed, is generally opaque, greyish, verging upon white, or, if it is tinged by blood, darker in colour and sometimes brownish. It is lightly inserted in the mucous membrane, to which it adheres, and sometimes its removal causes slight hæmorrhages. *It does not disintegrate in water.*

This aspect is generally modified when the diphtheria is complicated by secondary microbial infections, the false membrane is then more diffluent and often has a putrid odour.

Histologically, the characteristic of the false membrane, which is engendered by the action of the toxins of Löffler's bacillus, consists entirely in the abundance of the fibrinous exudate, which constitutes the essential substratum of this production. The fibrin forms a network of large regular meshes, constituted by rectilinear fibrillæ. This fibrinous network is stained very deeply by eosin. Its superficial zone contains very numerous diphtheria bacilli in clusters and some super-added microbes (streptococci, staphylococci, etc.) Its middle zone contains cells that stain badly. Its deep zone contains diapedesised leucocytes, and epithelial cells which are still little altered, and have come from the subjacent mucous membranes. The latter appears congested and stripped of its covering epithelium.

In *false membranes due to Lœffler's bacillus* in animals—whatever the species of animal that is concerned—one always finds identical reactions due to the specific action of the bacillus, and particularly the production of a *very important fibrinous network* upon the surface of the mucous membrane, which is deprived of its epithelium. On the other hand, the exudates found in birds in diphtheroid affections caused by other microbes than Löffler's are quite different in aspect. At first sight, to the naked eye, they resemble curdled milk, are friable, opaque, and greenish-yellow in colour. Generally they have a fœtid odour, and *they disintegrate in water.* They are only slightly adherent to the mucous membranes, from which they are easily detached. Sometimes these productions are hard, dry, and scaly.

Microscopically these *pseudo-false membranes*, as the author calls them, are formed by elements affected by coagulation—necrosis invaded by innumerable leucocytes. At no part do they show the staining reaction of fibrin.

The appearance of the "pseudo-false" membrane in avian diphtheria may be explained, not by a precipitation of fibrin, but by an elevation of the epithelium, which is lifted and dislodged by a veritable inundation of leucocytes, and at the same time becomes imbibed and swollen.

It results from these observations that, in avian diphtheria, the presence or absence of the fibrinous substratum in the false membrane should enable a decision to be made as to whether the disease is due to Löffler's bacillus or to other microbes.

In the latter part of his communication, the author produces many clinical facts which demonstrate the transmission of avian diphtheria to man, and, reciprocally, the transmission of human diphtheria to certain animal species.

The principal conclusions resulting from this work may be tabulated as follows;—

1. It must be admitted that avian diphtheria is polymicrobial in nature.
2. Pathological anatomy enables the true diphtheria, due to Löffler's bacillus, to be differentiated from diphtheroid affections due to other germs.
3. Reciprocal contagion between animals and man is possible, whatever the microbe causing the disease may be.—(*Annales de Méd. Vét.*)

The Occurrence of Avian Tuberculosis in Man.

E. Löwenstein says (*Wiener Klinische Woch.*) that the eggs of tuberculous fowls contain numerous tubercle bacilli; and that when the egg is cooked, as is usual, to the consistency of a plum, these bacilli are not killed, and may provide a source of infection for mankind. He has repeatedly seen cases of avian tuberculosis in human beings, in which he bacteriologically identified the avian tubercle bacillus both by cultural experiments and animal inoculation. When acid-fast bacilli are found, not only should guinea-pigs be experimentally inoculated, but also rabbits and fowls.—(*Berl. Tier. Woch.*)

Subcutaneous Tuberculosis in a Cow.

Ch. Pérard, a sanitary veterinary surgeon of the Seine, reports the following peculiar lesions which he observed in the abattoir. The subject was a cow of Normandy breed, about ten years old. She had come from a dairyman's establishment, and was affected with pulmonary tuberculosis. The lesions in question were found in the middle part of the left side of the neck.

These lesions consisted of small irregularly bunched tumours, ranging from the size of a millet seed to that of a lentil, and either united in little clusters or not united. They were situated in the subcutaneous connective tissue, in the thickness of which they formed a plastron about six inches in diameter and from 1-5th inch to 2-5th inch thick.

Some of the tumours were adherent to the internal face of the derma, and others to the external face of the superficial muscles. A large number of them had therefore been divided by the butcher's knife. Upon section, they appeared clear yellow in colour and fibrous in consistence. A certain number showed the commencement of calcification. The neighbouring lymphatic glands showed no signs of tuberculosis.

The author, in conjunction with Ramon, has already studied and described (*Bull. Soc. Centrale de Méd. Vét.*) subcutaneous tuberculous lesions of cattle, some of which resembled the "tuberculides" of Darier and Rousy. The lesions under notice were absolutely different to the previously described ones. Those first described by the author and Ramon consisted of round or oval nodules, surrounded by a fibrous envelope, of the average size of a nut, of elastic consistence, and composed of a homogeneous substance of greyish colour. The lesions under notice, on the other hand, were small hard bunched tumours, fibrous or partially calcified, and of a beautiful yellow colour,

The fact that she showed unequivocal signs of tuberculosis elsewhere rendered these cutaneous lesions especially suspicious.

Direct microscopical examination of scrapings from these lesions, stained by Ziehl's method, yielded no positive result. Animal inoculation, on the other hand, did give positive results. Two guinea-pigs were inoculated hypodermically with substance obtained by crushing these lesions, and both died—in fifty-three and fifty-eight days respectively. The post-mortem examination showed that they had succumbed to a tuberculous infection.

Finally, the author mentions that, according to the information given by the cow's owner, she had some months previously received a hypodermic injection of tuberculin on the left side of the neck. The author suggests that this may possibly have been concerned in the production of the post-mortem lesions found in the same region.—*L'Hygiene de la Viande et du Lait.*

(English tuberculins are all at least supposed to be sterile—are all French ones? The final paragraph suggests a doubt.—*Transl.*)

The Action of Cod Liver Oil against Flies and Mosquitoes.

Lang, a Government veterinary surgeon of Noumea, has been studying the action of cod liver oil upon the "flat-flies" (*Hippoboscidæ*) which assail animals. He finds that this oil possesses a specific toxic action upon all flies, and upon mosquitoes and ticks.

By covering those parts of the horse's body which the "flat-flies" most affect with cod liver oil, it is possible to instantly destroy all the flies which the oil even slightly touches. It is also possible, with the oiled hand, to free the horse within a few minutes of all the flies of which he is the host, without fear of a subsequent caustic action upon the skin.

The same action is manifested against flies, mosquitoes, and even against ticks, which are so difficult to extract from the skin of the dog.

Moreover, cod liver oil has a prophylactic effect. When placed upon wounds it obstructs the action of flies, and thus favours cicatrisation.

Its greatest drawback is its strong smell.

Finally, if sprinkled upon the surface of water it destroys larvæ more effectively than petrol, and the author advises its use in preference to the latter agent as a prophylactic against mosquitoes.—*La Semaine Vét.*

A Combination of Narcotic and Anæsthetising Agents in Veterinary Surgery.

Roger describes (*Revue de Méd. Vét. Militaire*) the following method, which he uses for surgical operations upon the horse, and which combines the action of two narcotics, sulphonal and chloral hydrate, with that of opium, a narcotic and anæsthetic. His procedure is as follows:—

1. From the evening before the operation onwards, the horse receives nothing more to eat.

2. Two hours before the operation, he is given 500 grammes (about 7/8 pint) of water, in which 20 grammes (about 3v.) of sulphonal is dissolved.

3. Half-an-hour after taking the sulphonal, he receives a clyster of chloral hydrate (the amount of this is not stated.—*Transl.*)

4. A quarter of an hour before being thrown for operation, he receives a hypodermic injection of half a gramme (nearly 7¾ grains) of morphia.

This method has given the author excellent results, and has enabled him to operate just as conveniently as with the aid of general narcosis. —(*Berliner Tier. Woch.*)

[When a clyster of chloral hydrate *alone* is used for this purpose, as it often is upon the Continent, about 80 grammes is the common dose.

In the method described above, no doubt a much smaller dose is used. The most remarkable feature in Roger's procedure is the employment of sulphonal, which hitherto seems to have been very little used in equine practice.—*Trans.*]

THERAPEUTICS OF PARENCHYMATOUS MASTITIS.*

By Louis A. Klein, University of Pennsylvania.

The pathological alterations of parenchymatous mastitis show a striking similarity to those of pneumonia. There is an exudation of blood serum and an immigration of leucocytes and wandering connective tissue cells into the acini and ducts of the gland, which is accompanied by an exfoliation of the epithelial cells lining the acini and ducts. There is also an inflammatory exudate into the interstitial and subcutaneous connective tissue, which is sometimes very pronounced. If these exudates can be removed and the epithelium is capable of regeneration, resolution occurs. If the exudates are not removed and the circulation is not restored to normal within a certain period, the inflammatory process in the interstitial tissue assumes a productive character. An increase of the interstitial connective tissue occurs and the udder becomes indurated. Subsequently, the newly-formed connective tissue contracts and produces atrophy. The epithelial cells disappear in such cases, either as a result of the pressure from the contracting connective tissue or because of extensive destruction at the beginning of the disease. If the milk ducts or canals are obstructed by clumps of casein or fibrin, the pathological secretion will be dammed up and abscesses will form. If the circulation is cut off from a section of the inflamed area by thrombosis or by pressure from the inflammatory exudate or collections of pus, necrosis or gangrene will occur. The necrosed area is subsequently separated from the healthy tissue by suppuration and may then become encapsulated, or, as occurs more frequently, the line of demarcation may extend to the surface, when the sequestrum may be eliminated spontaneously or removed by operation.

Resolution and the avoidance of complications, it will be seen, depend upon the prompt removal of the exudates. The exudate in the acini, ducts and cistern can be drawn off by milking, but that in the interstitial tissues must be resorbed.

Resorption is a complex physiological process which cannot be generated by artificial means, but the natural

* Presented at the fiftieth anniversary meeting of the American Veterinary Medical Association, at New York.

processes concerned can be stimulated or increased in capacity by certain therapeutic methods. The principal factors concerned in resorption are the interchange of fluids between the blood and tissues, the leucocytes, and the quantity of blood flowing through the part. By utilising these natural forces resorption can be promoted.

Purgatives and diuretics increase the interchange of fluids between the blood and tissues. By causing a reduction in the fluid of the blood they cause fluid to be absorbed from the tissues. This is known as the derivative or revulsive method. Sialagogues and diaphoretics also produce a derivative effect. The most striking illustration of the effectiveness of this method is the result obtained from the use subcutaneously of arecoline, a purgative and sialagogue, in the treatment of laminitis in horses. In parenchymatous mastitis, it is customary to use magnesium sulphate as a purgative, but eserine and pilocarpine combined act more promptly and perhaps more thoroughly and effectively, since they are sialagogues as well as purgatives, although their cost may prohibit their use in some cases. Arecoline is not recommended for cattle. On account of their weakeningeffects, purgatives cannot be repeated, but the derivative action can be continued by the use of diuretics. Potassium nitrate is a very popular diuretic in the treatment of parenchymatous mastitis. but one of the less irritant saline diuretics would be more desirable. Phytolacca, which has been used empirically in the treatment of mastitis for a long time, has a diuretic action and no doubt exerts its effects in this way. Diaphoretics are of no practical value as derivatives in cattle practice.

Leucocytes assist in resorption by phagocytosis and causing the disintegration and solution of solid exudates by means of a ferment. Leucocytosis may be increased by the local application of stimulants, such as tincture of iodine, spirits of camphor, oil of turpentine, etc., and by other measures which increase the flow of blood to the part, as hot water bathing, vapour baths, Priessnitz dressing, poultices, plasters, frequent milking and massage. According to Hess, massage should only be used after the inflammation has begun to subside and pain has disappeared. If it is applied at the height of the inflammatory process the disease will be extended to the adjoining quarter on the same side or on the opposite side, and the secondary infection is usually more severe and more difficult to heal than the original process. Massage is also contraindicated when suppuration or necrosis is present. Phagocytic function of the leucocytes can be stimulated by the injection of bacterins, but this action is a specific one, and the bacterin is only effective for the particular species of organisms used in its preparation. Since parenchymatous mastitis is a polybacterial disease the preparation or selection of a suitable bacteria for each case would involve considerable detail work. Schmidt, of Kolding, Denmark, the discoverer of the successful modern treatment of milk fever, recommends as a substitute for bacterins, the infusion into the udder of equal parts of absolute alcohol and glycerine. This mixture, he says, will kill and dissolve numbers of the bacteria concerned in the disease and when these dissolved substances are absorbed, specific opsonins will be produced which will stimulate the phagocytic action of the leucocytes against the bacteria remaining in the udder. But the mixture has a destructive action upon the epithelium of the udder and for this reason can only be used in those severe cases where the life of the animal is threatened or where there is no prospect of the return of the milk secretion. In other cases, the mixture is diluted with an equal amount of physiological salt solution. Usually about 250 c.c. is infused into the infected quarter and the quarter is not milked out for three days. The disintegrating and solvent action of the leucocytes on solid exudates cannot be directly affected by drugs, but a similar action can be obtained with potassium iodide, which destroys pathological cells and causes them to degenerate, and by sodium chloride, sodium bicarbonate, sodium sulphate, and ammonium chloride, which dissolve and liquefy solid inflammatory products.

An increased flow of blood through the part may be brought about by heart stimulants, local stimulant applications, hot water bathing, vapour baths, Priessnitz dressing, plasters, poultices, massage, and frequent milking. Caffeine will serve the purpose of both a heart stimulant and diuretic, and may be given in the form of the alkaloid or strong coffee. Frequent milking, every one or two hours, is a very important method of treatment. The manipulation of the test dilates reflexly the blood vessels of the udder and causes a greatly increased amount of blood to flow through the udder. It also removes the exudate and prevents its decomposition and the formation of irritant bacterial products in the acini and ducts of the udder. A suspensory bandage promotes the circulation in the udder and also reduces pain by relieving tension upon the tissues.

When it was demonstrated in the last quarter of the nineteenth century that bacteria were the direct cause of mastitis, Franck advocated that the disease be treated by destroying the bacteria concerned by the injection of antiseptics into the udder. This method of treatment was adopted by many veterinarians, but the results were disappointing. It was found that the antiseptic solutions irritate the udder tissue and frequently increase the inflammation even when diluted to a point where their effectiveness seems doubtful. Subsequently it was observed that all of the beneficial effects resulting from the injection of antiseptic solutions could be obtained by frequent milking without the irritation produced by antiseptics.

Some antiseptics when administered by the mouth are eliminated through the udder. The writer administered hexamethylenamina, better known under the name of urotropin, to a cow in one to two dram doses and demonstrated formaldehyde in the milk in 24 hours. Boric acid given in two to six dram doses at the same time to the animal appeared in the milk in 12 hours. No irritant effects were produced. Iodine is eliminated in the milk when potassium iodide is given and salicylic acid is also excreted through the udder. When doses of 45 grains to 1½ drams of potassium iodide were given daily, Labourdette found that the milk contained up to 3¾ grains of potassium iodide to the quart. The amount of the other substances eliminated in the milk has not been determined.

The germicidal power of milk, which is feeble under normal conditions, is increased in mastitis. Its effect on the bacteria of mastitis has not been accurately tested, but the writer has observed a few cases of streptococcic mastitis in which it appeared to have destroyed the organisms of the disease. Whatever advantage can be obtained from this property can be exerted to the fullest extent by frequent milking of the affected quarter.

While bacteria are usually the direct cause of mastitis there are certain accessory or predisposing causes which should receive consideration in treating the disease. These are damp, cold floors, sudden exposure to cold air, excessive cold, drafts, incomplete milking and stasis of milk. Deep milkers are more susceptible to the disease than others.

Usually the fever is reduced by the action of the purgative and the diuretics. Very high temperature indicates septic infection and camphor, alcohol and quinine are then indicated. Necrosis, abscess formation, indigestion, paresis of the rumen, muscular weakness, posterior paralysis and other complications are treated according to the usual methods.—*American Vet. Review.*

WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

[National V.M.A. Southern Branch.]

The 31st annual meeting was held at the Royal Clarence Hotel, Exeter, on Thursday, March 26th, when the President, Mr. C. E. Perry, of Bristol, occupied the chair. Others present included Capt. A. S. Head, Helston; Messrs. Wm. Ascott, Bideford; W. H. Bloye and P. G. Bond, Plymouth; A. J. Down, Sampford Peverell; J. Dunstan, Liskeard; G. H. Gibbings, Tavistock; G. Lansley, Axminster; P. Penhale, Barnstaple; R. E. L. Penhale, Torrington; Wm. Penhale, Holsworthy; Wm. Roach, Exeter; W. P. Stableforth, Colyton; E. J. Thorburn, Crewkerne; and H. E. Whitemore, Langport.

The minutes of the last meeting were read and confirmed.

Apologies regretting inability to attend were read from Prof. Hobday, Messrs. E. Dunstan, F. T. Harvey, W. L. Richardson, A. G. Saunders, and W. Wintle.

Correspondence. Mr. G. Parker Short wrote from a Nursing Home in London, thanking the members for their vote of condolence passed at the last meeting.

The late Mr. Wm. Hunting.

It was unanimously resolved to support the proposed petition to the Treasury, and the President was empowered to sign a copy of the same on behalf of the Association.

On the motion of Mr. R. E. L. Penhale, seconded by Mr. Wm. Penhale, it was resolved "That the sum of three guineas be subscribed to the Fund being raised in recognition of his life and work."

A letter from Mr. J. C. Coleman, of Swindon, asking to be supported in his candidature for election to the Council in May, was read.

The notice of the Congress of the Royal Sanitary Institute, to be held at Blackpool in July next, was allowed to lie on the table, the distance being considered too great to appoint delegates.

The Hon. Treasurer (Mr. P. G. Bond) presented the annual report and balance-sheet, and on the proposition of the President, seconded by Mr. Ascott, the same was approved and adopted.

Election of Officers.

Mr. W. P. Stableforth was unanimously elected President for the ensuing year, and Capt. Head, Messrs. C. E. Perry, Wm. Penhale, and G. Lansley, vice-presidents.

Messrs. P. G. Bond and Wm. Ascott were re-elected Hon. Treasurer and Hon. Secretary respectively, and heartily thanked for their past services to the Association.

The arrangements for the next meeting was left in the hands of the President, Hon. Treasurer and Secretary.

EPIZOOTIC ABORTION.

By Capt. A. S. Head, f.r.c.v.s., Helston.

Definition. A specific, contagious, catarrhal inflammation of the pregnant womb, with an œdematous condition of the fœtal membranes. The chief symptom being the expulsion of the fœtus prior to the full time of gestation.

It is a disease which has, possibly, from early times down to the present time, caused as much loss financially to dairy farmers and breeders as any other disease, but owing to the fact that it does not cause loss of life to the affected animal, it has not been studied until latter years, or received the attention it deserves; and even now we are without legislation on the subject. To many a dairy farmer it means financial ruin to have his herd infected with the disease.

The disease usually at its outset affects all, or nearly all, of his cows. His supply of milk fails through the cows slipping, and not calving at the time that he has arranged and requires their milk, so he has either to buy new cows in full milk to supply his customers, and feed the cows that have slipped, or try to breed from them again. I have known dairy farmers that have not had a live calf for a whole year. When one thinks of this one can only wonder why, in our land of so many laws, some steps have not been taken to check the ravages of the disease.

The disease is caused by Bang's bacillus, which is rather like the tubercle bacillus, but smaller. The larger bacilli have a beaded appearance when stained, with rounded ends, are non-motile, do not sporulate, and have a great tendency to clump or group together which, under the microscope, look like micrococci.

Staining Reactions. With all watery solutions, but not by Gram. The best and easiest methods are, I think, ½ carbol-fuchsin and ½ water, or a weak solution of methylene blue.

The bacillus is found chiefly in the exudate between the uterus and chorion. At the time of abortion a smear taken from this exudate shows large quantities of bacilli. The bacilli can also be found in the substance of the cotyledons and the fœtal stomach.

Cultivation. The bacilli can be grown on gelatine, agar serum, at about body heat.

Susceptibility. Bang's bacillus has not been found in any animal but the cow, and has never been found in the bodies of the male or the virgin female, although it has been given experimentally to the mare and goat.

An attack of the disease, provided that the cow is allowed to thoroughly recover from the disease before being again served, gives a certain amount of immunity. Two attacks render a very large proportion of the herd immune; this acquired immunity lasts probably for several years, but I have known one cow to have the disease four times, and many others three times. An aborted calf that lives probably also has a lifelong immunity.

Natural Infection. I believe that I am right in stating that it is now widely believed that the most common mode of infection is through the alimentary canal. It is well known that animals can easily be infected experimentally in this way.

The next most common way will probably be found to be due to infection by biting flies. I put infection by the bull last, but as quite a possible way. In every-day life a farmer keeps a bull, and he usually puts an outbreak of abortion down to some infected cow being brought to his bull to be served. I think that this is quite possible, provided that his bull afterwards serves a clean cow of his within a few days.

I think that the most probable explanation is, putting aside the question of a dog bringing an aborted fœtus on to his farm, or his neighbours having infected boots, that an infected cow comes to his farm, discharging and dropping bacilli all over his yard and bull box, the bull gets it on his feet and chest, the farmer himself and his men step in it, and then walk over the fields and into the cowsheds, and his cows pick it up from the grass or bedding, or flies alight on the discharge and carry it to other cows and infect them by biting or through sores. That, and the want of proper care in the disposal of the placenta and fœtus of infected cows, are the chief causes in the spread of the disease. Another great factor in the spread of the disease I will mention later.

Diagnosis. It is not possible at present to diagnose the disease with any certainty before the principal symptom, *i.e.* abortion, has occurred. Experiments have been made with "Abortin," which, like tuberculin,

is said to give a temperature reaction, but even if we could diagnose it we cannot cure it, and so, with the exception of isolating all cows that react, from a practical point of view it would be useless to us.

When abortion occurs, diagnosis within 24 hours is simple. Besides the fact that the exudate contains large numbers of bacilli, the placenta itself is a great guide; it has a distinct yellow, gelatinous, watery appearance, quite unlike a normal afterbirth. In nearly all cases it is retained, and there is a very peculiar smell attached to an abortion placenta that may be best described as "musty."

Curative Treatment. The market, under various headings, is full of so-called cures for the disease, the majority having carbolic acid as their base, disguised in many ways; some give the acid in the food, others as a drench; some again vaporise the acid with a certain percentage of liquorice to disguise the smell, and others spray it into the vagina. They all claim, and I must admit with some right, to cure the disease. Their success is due to three factors:—

(1) With all preparations, either inhalations, or per os, etc., there are directions as to isolation, disinfection, and the disposal of manure, fœtus, afterbirth, etc., this alone does a lot.

(2) The farmer begins to wake himself up to the nature of the disease, and takes steps to stamp it out.

(3) By the time that the farmer is awake and finds that he has abortion on the farm, half the battle is over, the herd is beginning to immunise itself.

He has probably got over the first all-round slip, and many of the cows during the second year will carry their calves full time; and those that slip will carry their calves longer than they did the previous year. At the third year his whole herd is practically immune, and he then writes a testimonial stating that: "One year after using your medicine it completely stamped out the disease on my farm": so are reputations made.

I myself know of no cure once the disease has attacked a cow, and until the act of abortion has taken place, or full-time calving has taken place. I say this as it is quite possible, and sometimes happens, that a cow has contagious abortion and yet carries the calf full time, and when she calves, bacilli can be found in her in great numbers; but I believe that one can prevent an outbreak, cut an outbreak short, and protect stock that have not already got the disease from getting it even when on a badly infected farm.

Prevention and eradication. I believe that the first necessity is a law making the disease notifiable, and preventing the exposure for sale (except for food purposes) of any cow or heifer on the farm until that farm is certified to be clean.

It is now a common practice among a certain class of farmers and dealers to put another calf on to a heifer or cow that has aborted, and as soon as they take to the new calf, send them to the market as a newly calved cow or heifer. One can imagine nothing more criminal than this; for the cow is simply dropping bacilli everywhere, and the new owner's farm is soon thoroughly contaminated. A severe penalty is required to check this practice.

The next question is the advice that we should give an owner of a contaminated farm. I think the following are the chief points:—

(1) Don't buy any fresh cows or heifers if it can be avoided, as they are certain to catch the disease, and so keep the disease running; keep and re-breed from all your cows that have aborted if possible, they are less likely to abort a second time than a new cow, and are nearly certain not to abort a third time. Naturally, one would keep all cows that do not abort, as they have a natural immunity.

(2) After calving, if the after-births don't come away naturally, have them removed—the cows clean up sooner and the time that they are spreading infection is therefore shorter.

Isolate aborted cow until clean.

(3) Keep your own bull.

(4) Watch your herd carefully, see every cow yourself, and look for signs of abortion: then isolate at once.

(5) Burn or bury the fœtus and afterbirth, and mix the dung and bedding from an aborted cow with lime and use on ploughed land, or, better still, in the kitchen garden.

(6) Use a disinfectant spray, and disinfect your cows behind daily.

(7) Keep every cow that calves two months before going to the bull again. This, I believe, gives the cow time to completely recover from the disease before the uterus is again impregnated.

(8) A cow that has aborted should be kept two months after cleansing has ceased.

I believe in the importance of keeping the cows empty for some time for two reasons: (1) It gives the cows time to get over the disease; (2) After abortion you get a percentage of cows that will not hold (keep returning to the bull).

There only two ways that I have found give any satisfaction in the treatment of this trouble: (1) Keep the cow away from the bull for a lengthy period; (2) Well wash out the vagina with an antiseptic solution, and then let the bull serve and inseminate her.

Protective inoculation. We know that attacks of the disease render the animal immune, therefore by giving the animal the disease, or, in other words, injecting a proportion of the live bacilli into the subject when she is empty (at a certain length of time before being served by the bull) so that she may recover from the disease before becoming pregnant, should cause immunity. For the last three years I have, under the instructions of Sir Stewart Stockman, been experimentally inoculating cows in this way with material supplied by him.

The figures are not mine to publish, and as experiments have been and are being carried out in other parts of the country, I understand Sir Stewart Stockman naturally wishes to publish the results as a whole, and I believe that this will be done at a very early date. I do not think I am indiscreet in stating that I have inoculated nearly 1,000 cows, and for my part the experiment has proved to me that this line of treatment will be universally adopted in a very short time.

This and legislation, and a better education of the farmers on the subject will, I am certain, in a few years place contagious abortion in the same category as rabies and pleuro-pneumonia.

Vitamine.

A definite substance has at any rate been extracted from rice-polishings, yeast, bran, and milk which forms a small though apparently a very essential part of foodstuffs, inasmuch as their value as nutrients is impaired without its presence. The so-called "deficiency diseases" appear to arise from the use of foods from which vitamine has been removed. The substance appears to be a pyrimidine base analogous to uracil and thyamine and is probably a constituent of nucleic acid. It is definite enough to be crystallisable, the crystals giving a constant melting point. It is to be hoped that this substance will be the subject of further active researches, for the importance attached to the chemistry of foods seems to diminish in contrast with the vital influence of this remarkable base in dietetics.—*The Lancet.*

Department of Agriculture, Union of South Africa.

VETERINARY DIVISION—DISTRIBUTION OF OFFICERS.

Principal Veterinary Surgeon: C. E. Gray. Assistant Principal Veterinary Surgeon: J. D. Borthwick.

Cape Province.—Senior Veterinary Surgeon: R. W. Dixon, Capetown. G.V.S.: A. Goodall, W. Jowett, and E. Fern, Capetown; R. P. Jones, East London; J. H. L. Lyons, Graaff-Reinet; W. P. Hamlyn, Komgha; A. Matthew, Elliot; W. A. Simson, Cradock; W. Jones, Uitenhage; J. Nichol, Kingwilliamstown; W. G. Pakeman, Queenstown; J. P. L. Goemans, Vryburg.

Transvaal. — Senior Veterinary Surgeon: J. M. Christy, Pretoria. G.V.S.: R. S. Garraway, Pretoria; W. G. Evans, Volksrust; P. Conacher, Johannesburg; J. I. Edgar, Pietersburg; G. May, Rustenburg; H. M. Webb, Carolina; G. C. Webster, Barberton; J. Chalmers, Ermelo; J. M. Tate, T. H. Dale, Potchefstroom; J. G. Bush, Krugersdorp; G. Lee, Middelburg; F. Dunning, Lydenburg; G. McCall, Nylstroom.

Natal.—Senior Veterinary Surgeon: W. M. Power, Pietermaritzburg G.V.S.: S. H. Ewing, Eshowe; A. F. Harber, Durban; S. I. Johnston, Mooi River; F. J. Hill, Ladysmith; A. Goulé, Maritzburg; J. L. Webb, Bulwer; C. Tyler, Port Shepstone; and F. Hutchinson, Dundee.

Orange Free State.—Acting Senior Veterinary Surgeon: G. W. Freer, Bloemfontein. G.V.S.: J. F. Joyce, Ficksburg; J. R. R. Hamilton, Bloemfontein; F. M. Skues, Bethlehem; C. H. Wadlow, Smithfield; and E. T. Clemow, Frankfort.

Transkeian Territories.—Senior Veterinary Surgeon: J. Spreull, Umtata. G.V.S.: A. M. Howie, A. C. Kirkpatrick, R. Paine, W. A. Dykins, J. J. G. Keppel, and J. A. Worsley, Umtata.

DIVISION OF VETERINARY RESEARCH.

The Division is in close touch with, and is complementary to, the Veterinary Division. Director of Veterinary Research: Sir Arnold Theiler, K.C.M.G. Assistant Director of Veterinary Research: W. Robertson, Grahamstown. Superintendent: E. P. H. Parkes. Professional Assistants: D. T. Mitchell, W. H. Andrews, D. Kehoe, F. Veglia, G. A. H. Bedford, J. Walker, E. M. Robinson, H. H. Green, and P. R. Viljoen, Allerton.

Lamziekte Research Stations: Christiana (Officer in charge: W. H. Andrews), and Armoed's Vlakte (Officer in charge: R. R. Sharpe).

A Dangerous Dog.

A person is entitled to keep a dangerous animal upon his premises, but if he does so he is under the absolute duty of seeing that such animal does not escape. If it does escape, he is liable for any damage caused by it. In a recent case that rule has received some modification. A dog, the property of the defendant's daughter, had previously bitten another dog, and both the defendant and his daughter knew this. The dog was in fact the property of the girl herself, who was seventeen years of age; she had paid for the licence, which was in her name. She lived with her father, and the dog was also in that house. It happened that the dog worried and killed a Pomeranian dog, and its owner sued for damages, directing the action not against the girl but against her father. In the circumstances, and taking into consideration the age of defendant's daughter, the Court held that she had the custody and control of the dog, and that her father, who was not the owner of the dog, owed no duty to the community in respect of it.

In a case lately heard in the Falkirk Sheriff Court, the evidence clearly showed that the pursuer had been bitten by defender's dog, and that the defender knew that the dog was of a biting disposition; but the further question emerged whether, in the circumstances, the defender was liable, for the injury had been received by the pursuer when he was walking along a road through defender's farm steading, where there was a custom of passage not amounting to a right-of-way, but tolerated by the defender and his predecessors in the farm for many years. The argument for the defending farmer was that pursuer was a trespasser, and was at the steading on his own risk; but the Judge thought that as defender had acquiesced in persons using the road, there was laid on him the duty of controlling vicious animals so as to prevent them injuring passers-by, and accordingly he found the defender liable in damages.—*The Scotsman.*

Mange Prosecution at Hartlepool—Dismissed.

At the West Hartlepool Police Court on Wednesday, 25th ult., before Dr. Davis (in the chair) and Colonel Lauder, Joseph Thomason was charged with an offence under the Diseases of Animals Act.

Mr. Higson Simpson (the Town Clerk) prosecuted. He said the Order known as the Parasitic Mange Order of 1911 provided that a person having in his possession any animal suspected of parasitic mange should keep the animal separate and comply with certain other conditions.

Inspector Kevan said that on Saturday the 31st January his attention was called to a horse belonging to Mr. Pattison and which he found to be suffering from parasitic mange. He stopped the horse from being used. Accompanied by the Corporation veterinary inspector he went to the premises of the defendant and there found a mare suffering from parasitic mange.

Benjamin Hoadley, M.R.C.V.S., veterinary inspector employed by the Corporation, said that on the 1st Feb. he received notice of the defendant, went to the premises and there saw a bay mare. In his opinion it was a very bad case of parasitic mange. From the condition of the animal the disease had been in existence for at least three months. Mr. Emmerson Thomason said they had been treating it with paraffin oil and trying to cure it. Paraffin oil was not a proper remedy. He put some hair from the animal under a microscope, and found this particular parasite.

Cross-examined, the witness said there were lots of skin diseases and three specific forms of mange. A mere novice would be able to detect the presence of the disease once he had seen it.

James G. Dean, M.R.C.V.S., of Bishop Auckland, spoke to visiting the premises on the 4th Feb. He found a bay mare suffering from parasitic mange. It was general all over the body. It was a very bad case, so bad that any person who had seen a case of parasitic mange before could not mistake it.

Mr. Berry, for the defence, said that his client had had a vast experience of horses. They were asked to believe by the prosecution that he had allowed a mare suffering from this contagious disease to be amongst other horses. That was an unreasonable proposition. They had no proof that there was a reasonable suspicion of the mare suffering from mange. His client believed that the mare was suffering from an ordinary skin disease due to overfeeding, and he allowed his man to take the usual precautions. When his client thought there was a suspicion of the mare suffering from mange he immediately gave notice.

Joseph Thomason, manager for Messrs. J. J. Thomason and Co., hay and corn merchants, said on Dec. 12th he purchased a horse from a Mr. Beach, and on Dec.

19th he exchanged it for another one with Mr. Pattison. The horse he got from Pattison was a grey gelding, and there was not anything wrong with either horse. At that time he had a bay mare in his possession, and that animal was the object of the charge. That animal he had owned for three years, and in December last he noticed that there was a little rash or eczema—common among horses—upon it. This, he thought, was due to heat in the blood, for in the back end or spring of every year since he had the animal it had been similarly afflicted. There were six other horses in the stable along with that horse, and he most certainly would not have allowed the mare to be among the other horses had he suspected parasitic mange. On Jan. 31st witness heard that Mr. Pattison's horse had been stopped, and in consequence of that he saw Mr. Walker, the veterinary surgeon, and asked him to look at his mare. Mr. Walker could not find anything relating to parasitic mange.

Emmerson Thomason said he did not think the horse in question had suffered from parasitic mange. The harness used by this horse had also been placed upon other animals, and those horses had not shown the least symptoms of the mange. The horse had suffered from a slight scurf, which had been treated with paraffin.

John M Walker, F.R.C.V.S., veterinary inspector for the Petty Sessional Division of West Hartlepool, and for Hartlepool, stated that on January 31st defendant told him that Pattison's horse (which had come from his stable six weeks before) had been stopped on account of parasitic mange, and he asked witness to examine the mare concerned in this case. He did so the following morning, and found new hair growing along the back and flanks. He considered that the condition of the horse's skin was then due to the paraffin. Witness advised Mr. Thomason to get a second opinion, and reported the case as a suspected one, as a precautionary measure. He, however, was of the opinion that the horse had not had parasitic mange.

The Chairman: In your opinion, under the conditions, would it be very difficult for a layman to detect whether it was a case of parasitic mange?

Witness: Most certainly.

The Bench found that defendant had not had reasonable suspicion that the animal was suffering from parasitic mange between January 1st and 13th, and they therefore dismissed the case.—*Northern Daily Mail.*

Dispute about a Gelding.

At Castlerea Quarter Sessions, on Tuesday, 24th ult., James Lenaghan, Tournagee, sued Martin Murray, Ballyglass, for damages for breach of warranty of a horse.

Mr. P. C. P. MacDermot was for the plaintiff, and Mr. Staunton defended.

Lanaghan, in reply to Mr. P. C. P. MacDermot, deposed that the animal was not a gelding as he was engaged to be. The animal was bought at £15 15s., and he could not do farm work now with the animal.

Mr. James Watson, v.s., jun., deposed that Lenaghan brought the horse to him in Boyle. The animal was not a gelding.

To Mr. Staunton; I examined the horse carefully. To the best of my knowledge the animal is not a gelding.

Andrew Lenaghan deposed in reply to Mr. P. C. P. MacDermot that the animal was bought at the fair of Ballinagare on Jan. 6th. He said the colt seemed to behave rather unusually.

Mr. Robert Hans deposed he had got a certificate in Science from the Royal Veterinary College. He was now in his final year, and had carried out about fifty such operations each year which were invariably successful. He carried out the operation on the animal last April. He swore positively this horse was a gelding.

Mr. P. C. P. MacDermot: When you went to Lenaghan's house why did you not tell him your name?—I did not think it was necessary.

You are a handy man? You are not a vet?—I will be one soon.

It would be a serious thing for you if it went through the country that you did not successfully carry on the operation?—Owners of animals for whom I have carried out such work would not have any other.

Mr. E. Mulligan, v.s., Roscommon, deposed he examined the horse, and in his opinion it was a gelding.

To Mr. P. C. P. MacDermot: I disagree with Mr. Watson when he says the operation was not successfully performed.

How do you account for the horse's actions?—He is a spirited horse.

Martin Murray deposed he sold the gelding to Lenaghan at Ballinagare fair. The colt was the finest one ever he had. The operation was successfully performed.

Mr. P. C. P. MacDermot:—Was it not rather unusual to see a colt of his age?—No.

You engaged the animal to be all right?—Yes.

There is a difference between the "vets." and would you agree to pay the fees of Mr. Vahey, v.s., Sligo, if you are wrong in this?—That depends (laughter).

Thomas Morahan corroborated.

His Honour said he held the colt was a gelding, and he dismissed the action.—*Roscommon Herald.*

Swine Fever.

At a meeting of the Council of the Central and Associated Chambers of Agriculture held on March 31st at the Surveyor's Institute, Mr. C. Bathurst, M.P., was in the chair.

The report of the Cattle Diseases Committee stated that the deputation which waited upon the President of the Board of Agriculture on the subject of the Tuberculosis Order received a most sympathetic hearing. They regretted that the Departmental Committee on Swine Fever (the conclusions of which appeared in *The Times* of February 12) had not been able as yet to come to more definite conclusions on this very difficult question, and were of opinion that it would be more satisfactory to agriculturists if the Departmental Committee were to publish further particulars as to details of the experiments carried out by them.

Professor Penberthy, in moving the adoption of the report, said the deputation to Mr. Runciman took the form of a private conversation. Mr. Runciman was very sympathetic in respect to dual valuation, increased compensation, and the cost of administration, and no doubt this would be evidenced in any new Order issued.

Colonel Lewis said they had been for a good many years trying to stamp out swine fever, but they could not say that all the efforts of the Department of Agriculture had met with even modified success. In the last five or six years nearly half a million had been spent, and the net result was that swine fever had increased enormously. The administrative action taken to stamp out swine fever had been a complete and absolute failure. There seemed, therefore, to be no particular reason why these vexatious restrictions should still be imposed on the agricultural community.

In the course of discussion, the view was expressed that, if pigs were slaughtered at the market and only removed under licence, swine fever would be reduced enormously.

Mr. Wood Homer dissented from the idea that restrictions on swine fever should be abolished.

Mr. Courthope, M.P., Chairman of the Departmental Committee on Swine Fever, said no doubt a carefully thought out adaptation of inoculation treatment in this country might save the Government, and probably County Councils, a good deal of expenditure. It would not, as far as he could see, save the farmers anything. That the Departmental Committee had not been able to come to more definite conclusions was due to the fact that so little was known of the disease. The present orders and administration of swine fever had completely broken down. But if they were to recommend the Board of Agriculture to "scrap" their present system of control the Departmental Committee must do one of two things. They must be prepared to justify the removal of all restrictions and allow swine fever to "rip," or suggest some reasonable proposals for dealing effectively with it in place of the policy of control. He thought the Chamber would be very rash to propose the removal of all restrictions, and it was with a view to finding some means of dealing effectively with the disease that experiments were being carried out, and further experiments were still necessary.

The Chairman said the Board of Agriculture could not stamp out this disease, because a large number of animals affected showed no discoverable symptoms of it, yet they communicated it to the pigs. Therefore, it was impossible to defend the existing harassing restrictions. Other countries were recognising the futility of restriction, and abandoning them in the interests of the pig trade.—The report was adopted.

Mr. R. C. Gray moved "That, owing to the enormous increase of mechanical traction, the whole cost of the maintenance of such roads as are in general use for the purpose of through traffic should be borne by the Imperial Exchequer." He said the roads which formerly cost £15 to £18 per mile to keep up now costs hundreds of pounds per mile. (Carried.)

OBITUARY

THOMAS AUBREY, F.R.C.V.S., Clifton, Bristol.
Graduated, Lond: May, 1854. F. Jan,, 1893.

By the death of Mr. Thos. Aubrey, F.R.C.V.S., of Clifton, Bristol, the profession loses one of its oldest practitioners. Passing away on Saturday last quite suddenly from arterio-sclerosis, he was in his 82nd year, and had been in active practice almost half a century. His funeral took place on Tuesday at Bitton, Gloucestershire, and was attended by a representative gathering, including many veterinary surgeons, for he was widely known and very much respected.

He was born in 1833 at Salisbury, and was for 38 years in practice there, until 1892, when he took over the practice at Bath of the late Mr. T. D. Broad, F.R.C.V.S. On retiring in 1904, he was succeeded by Mr. Eve; the business is now in the hands of Mr. J. J. Aveston.

For many years Mr. Aubrey was veterinary surgeon to the Bath and West of England Show, and to the Shire and Hackney Shows in London, as well as others in different parts of England. An excellent judge of shoeing, his services as an adjudicator in this branch were in much demand. In 1876 he married Kate, daugter of T. D. Broad, who survives him, with four sons and four daughters. The former are Dr. Aubrey, of Bitton, and Messrs. Fred, Harold, and Leonard Aubrey, all dental surgeons.

CHARLES RUGG, M.R.C.V.S., late of Marden, Kent.
Lond: April, 1870.

Mr. Rugg's death occurred on 28th March, at a nursing home in Kensington, at the age of 64. He was brother of Mr. George Rugg, M.R.C.V.S. Chiswick, London,

GEORGE CRAIK, M.R.C.V.S., Alnwick.
New, Edin: May, 1888

Mr. Deputy Coroner H. J. Percy held an inquest at the Court House, Alnwick, on Monday, 30th ult., touching the death of Mr. George Craik, M.R.C.V.S., of Nether House, Alnwick, who died from injuries received through the hunter which he rode bolting with him.

George Cockburn Robertson, brother-in-law, gave evidence of identification.

Thomas Davison Hall, steam-roller driver, West Allerdean, who was in charge of a road roller, stated that he was working on the road between the railway station and the Royal Oak. When about 50 yards off Mr. Craik shouted to him to shift his engine to the other side of the road. The engine was then standing. He started the engine, and got across to the other side of the road. Looking back, he saw Mr. Craik lying in the middle of the road, the horse standing about a yard away from him.

Robert Clark, yard foreman at the White Swan posting establishment, said about half-past two o'clock on Friday afternoon, he was driving a pair of horses attached to a carriage along the South Road. Mr. Craik was going along in front of him, and his (Mr. Craik's) horse started to plunge, and jumped on to the cement footpath at the side of the road, where it slipped and fell almost on its hindquarters, but did not go down. Mr. Craik kept his seat. Regaining its feet, Mr. Craik's horse made a jump to come on to the road, but its legs went out from below it and it fell into the road, Mr. Craik being underneath, but he fell on his face.

Dr. Scott Purves stated that he was called to the Infirmary about 2.25 p.m. on Friday, where he saw the deceased, who was not unconscious. There was a bruise on the back of his head caused by coming into contact with the road. By 4 o'clock Mr. Craik had recovered himself, and he (Dr. Purves) got his car and took him from the infirmary to his home. Mr. Craik was able to walk upstairs to his bedroom, where he put him to bed. It subsequently proved that hæmorrhage had been going on, and at 10 o'clock at night, when Dr. Robson was present, Mr. Craik had become unconscious, and was showing signs of concussion of the brain. He and Dr. Robson considered it would be advisable to send for a specialist, and Dr. Richardson arrived about 1.30 a.m., by which time Mr. Craik appeared to be better than earlier in the night, and it was considered that an operation was not necessary.

The Deputy Coroner, after remarking upon the evidence, said the jury, as well as himself, would wish to convey to the widow of their esteemed townsman their deepest sympathy in her sad bereavement.

The jury found that deceased died from cerebral compression, the result of being accidentally thrown from his horse

The remains of the late Mr. George Craik were laid to rest in the cemetery at Alnwick on Monday afternoon. The procession which followed was a very long one, the late Mr. Craik having been most popular amongst all classes. The cortège was preceded by upwards of seventy of the Masonic brotherhood, of which the late Mr. Craik had been a member. The principal mourners were Mr. Adam Robertson and Mr. G. C. Robertson, Mr. D. Craig, Messrs. D., G., and W. Craik, Mr. Reive, Misses G. and A. Reive, Mr. P. Marshall, Mr. Marshall, jun., Mr. D. Robinson, Mr. Ralph Nesbitt, Mr. James Lillico, Mr. R. F. Robertson, Mr. Adam T. Robertson, and Mr. T. Reavell; Sir Francis E. Walker, representing the Duke of Northumberland and Earl Percy; and Mr. L. R. Pym.

Representing the Percy and neighbouring hunts were Captain R. Milvain, M.F.H., Mr. R. Basil Hoare, M.F.H., Shawdon; Mr. T. Arthur, Bell's Hill; Mr. Rupert S. Wright, Belvedere; Mr. F. O. Chrisp, Prend-

wick; Dr. Fenwick, Longframlington; Captain M. Burrell, Broompark; Captain C. E. Browne, Brunton; Captain M. Browne, Tuggal; Mr. Alex Browne, Callaly Castle; Mr. F. P. Barnett, Whalton; Mr. G. Bolam, Newham Hall; Mr. Wm. Bell, Ratcheugh; Colonel Kenyon-Slaney, Broompark; Mr. M. Whiteford, Warkworth; Mr. John Sordy, Greensfield; Mr. G. Green, Birling; Mr. R. L. Allgood, Titlington; Mr. Beckitt Clayhills, Dancing Hall; Mr. J. J. Pawson, Newton Link House; Mr. C. R. Pawson, Callaly; Mr. W. J. Glahome, Littlehoughton; Mr. W. Glahome, Alnwick.

Dr. Clement Stephenson, Mr. G. Elphick, Mr. Davison, Newcastle; Mr. W. Taylor, Morpeth; Mr. Cameron, Berwick; Mr. Lawson, Rothbury; Mr. Lyon, Wooler; represented the veterinary profession.

The committee of the Alnwick Infirmary were represented by Dr. Scott Purves and eleven other members.

The Alnwick Swimming Club, of which Mrs. Craik had been president of the ladies' section, was represented by Messrs. J. Wrightman Douglas, W. A. Hudson, and J. Frater.—*Newcastle Daily Journal.*

JAMES HALL BROWN, M.R.C.V.S, Westcliffe-on-Sea. Lond: May, 1861.

Death took place on March 25th from senile decay: cardiac failure. Aged 77 years.

PARLIAMENTARY.

In the House of Commons, on Thursday, March 26th Mr. HERBERT SAMUEL, in answer to Mr. Astor, said that investigations made on behalf of the Local Government Board indicated that tuberculosis in children was often clearly connected with the consumption of tuberculous milk. He was now engaged in the preparation of legislation to deal with this and other sources of infection and with the adulteration of milk, and hoped to be able to make a statement with regard to it at an early date.

The Tuberculosis Order in Perthshire.

At a meeting of the Perthshire Local Authority, Mr. Wm. Henderson, Lawton, presiding, Mr. Marshall, jun., reported that the Executive Committee appointed by the representatives of Scottish Local Authorities in connection with the proposed amendment of the Tuber culosis Order agreed to ask all Local Authorities for suggestions, and thereafter to have another meeting. There seemed to be a consensus of opinion that the scope of the Order should be extended to cover all cases of animals which, although apparently healthy, were spreading disease germs. The opinion was also strongly expressed that the whole cost of compensation should be borne by the Exchequer.

The meeting then proceeded to consider *seriatim* the proposals sent out by the Executive. The first was that the veterinary inspector be empowered to employ the tuberculin test without the consent of the owner. After consideration, the suggestion was approved.

The second suggestion was that Article B (1) be deleted, or (2) amended to meet the difficulties which have arisen in practice. The Chairman said that this referred to the removal of suspected cases in markets and sale yards for examination. Certain Local Authorities had been involved in serious questions. The Executive's proposal was agreed to.

The third proposal was that the scope of the Order be widened to include all bovine animals actively disseminating the germs of tuberculosis. Mr Ferguson said that what they had to fight against was the man who tied up a piner in the stalls on a Friday and was followed by a man who tied up a clean beast on Monday. It was agreed to approve of the extension of the Order as suggested.

The fourth suggestion, which was also approved of, was that a request be made that the whole cost of administration, including compensation paid, be borne out of imperial funds, or, alternatively, that a request be made that in addition to part of the compensation being paid out of imperial funds, the cost of administration be borne out of this source.

Mr. Marshall reported that the number of tuberculosis cases notified to date was 53. Of these, 9 were not confirmed, 1 not examined, and 1 was still under consideration. As the result of post-mortem examination, only 1 out of the 42 was not confirmed. Of the cases, 6 were not advanced and 35 advanced. The compensation paid or payable was £120, salvage received, £25 14s. 9d., and administration expenses ran to £2 10s. per case.—*Scottish Farmer.*

Foot-and-Mouth Disease.

An outbreak of foot-and-mouth disease has occurred at Ticknock, Co. Dublin, and movements of animals in the district, including the City of Dublin, have been prohibited.

Animal Diseases in Edinburgh.

A report by Professor Dewar, the veterinary inspector on the work in connection with the Diseases of Animals Acts in Edinburgh for the year 1913, was submitted at a meeting of Edinburgh magistrates held recently. It stated that there had been but one outbreak of swine fever reported as having occurred within the city during the year, though a serious outbreak occurred in the Corstorphine district in the early summer, which entailed a good deal of extra work in connection with the markets. Not for over two years had a case of anthrax come under Prof. Dewar's notice as having occurred within the boundary, but quite a number of suspected cases had been reported. There was only one case of glanders; and although a large number of sheep passed through their markets during the year, there were no cases of sheep scab. Referring to foot-and-mouth disease, he said that notwithstanding the fact that numerous complaints had been made that the twelve hours which the Board of Agriculture claimed was necessary for inspection was a hindrance to trade, it had been continued to the end of the year. Only six outbreaks of parasitic mange were reported, and four of these were confined to single animals. Four tuberculous cows in dairy byres were destroyed. The authority's experience of the Tuberculosis Order of 1913 helped to give them more confidence, as they found the compensation to be made comparatively small.—*N.B.A.*

Mr. Rockefeller and Animal Diseases.

Mr. John D. Rockefeller, according to an announcement made recently, has given £200,000 to the Rockefeller Institute for Medical Research, to be used to organise and conduct a department for the study of animal diseases.

Hitherto the Rockefeller Institute has confined its investigations to studies of the fundamental problems of biological science, and to the field of human diseases. From the economic standpoint Mr. Rockefeller's gift will go far, it is believed, to minimise the great annual loss to the country entailed by animal disease. Such losses discourage enterprise in animal husbandry, and consequently increase the cost of living Last year, it is estimated, an epidemic of hog cholera killed £12,000,000 worth of swine in the North-West alone.

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders.†		Parasitic Mange.		Sheep Scab.	Swine Fever.	
		Out-breaks (a)	Animals.	Out-breaks (a)	Animals.	Out-breaks (b)	Animals.	Out-breaks (b)	Animals.	(b)	Out-breaks (a)	Slaughtered. *
GT. BRITAIN. Week ended March 28		15	18				2	42	74	4	94	1129
Corresponding week in	1913 ...	16	16			10	25	74	144	5	59	1057
	1912 ...	22	23			4	10	62	123	4	66	958
	1911 ...	17	20			4	5			5	51	518
Total for 13 weeks, 1914		243	261	11	74	25	69	957	1799	134	781	7278
Corresponding period in	1913 ...	174	191			46	136	1016	2148	105	467	5819
	1912 ...	326	357			46	103	1526	3561	144	790	9808
	1911 ...	261	301	1	18	52	184			280	513	5731

(a) Confirmed. (b) Reported by Local Authorities. † Counties affected, animals attacked: Lanark 2.
Board of Agriculture and Fisheries, March 31, 1914

MERCK'S ANNUAL REPORT OF RECENT ADVANCES IN PHARMACEUTICAL CHEMISTRY AND THERAPEUTICS. 1912. Vol. XXVI (E. Merck, Chemical Works, Darmstadt, 1913. London office, 16 Jewry Street, E.C.)

Merck's Annual Report is always welcomed by pharmaceutists and physicians alike, as an invaluable summary of the recent progress of their closely allied sciences. The work is so well-known that all we need do is to indicate two special features in the present volume, and to add that it more than maintains the standard set by its twenty-five predecessors. The special features are a long commencing article (physiological, chemical, and therapeutical) upon lecithin, and a shorter one as an appendix (by Prof. R. Heinz) on the assay and standardisation of digitalis preparations. The bulk of the volume is made up as usual—by a series of articles upon all drugs known to the editor which have been the subject of advances since the publication of the last volume. These include many little known agents, and many others—such as eucalyptus oil, salicylic acid, and sodium bicarbonate and thiosulphate, which are used by almost every practitioner. The whole is as interesting and suggestive as we have been accustomed to find Merck's Report in previous years; and as veterinary medicine, if not very prominent in its pages, is by no means neglected, it should find many readers in our profession. W. R. C.

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, March 27.

SPECIAL RESERVE OF OFFICERS.

Supplementary to Regular Regiments or Corps

ARMY VETERINARY CORPS.

J. J. Mills, late Cadet-Serg. Royal Vety. Coll. of Ireland O.T.C., to be Lieut. (on probation). Dated March 28.

Prohibition of Export of Russian Horses.

The Bill prohibiting the export of Russian horses abroad came into force last week. The main object of the measure is to lower the cost of cavalry remounts for the Russian Army. During the last few years the Germans have bought 100,000 horses in Russia annually, with the result that prices in this country have risen inordinately.—*Reuter*.

Personal.

Mr. WILLIAM MARSHALL, M.R.C.V.S., Aberdeen, has been recommended to the Council for appointment as veterinary surgeon for the city by a joint meeting of members of the Bills and Law, Public Health, and Cleansing Committees of the Aberdeen Town Council

Mr. ANDREW MACGREGOR, M.R.C.V.S., of Glengyle, Comrie Road, Crieff, N.B., farmer, at The Currochs, Monrievaird, and for a period in the Irrawaddy Flotilla Service, left estate of the gross value of £11,476.

Principal MCCALL, F.R.C.V.S., and Mr. ANDREW ROBB, F.R.C.V.S., together with the local inspector appointed by the Highland and Agricultural Society, have been appointed veterinary inspectors for the Cawdor Cup Competition at the show at Hawick.

TRANSMISSIBILITY OF TUBERCULOSIS.

Dear Sir,

The Veterinary Record of March 21st contains a letter of admonition from Mr. Coleman to Mr. Harold Leeney for daring to support Mr. R. Mond's views on Tuberculosis, and incidentally he tries to belittle Mr. Mond by stating that he is the son of a chemist who has made a lot of money. This forcibly reminds me of the old saying "If you have a bad case abuse your opponent," but that is no argument. Mr. Mond is a worthy and able son of a very able father, and uses his wealth for the advancement of science and the benefit of his fellow creatures. He runs a hospital for infants in London, which is under the intensely keen supervision of Ralph Vincent, M.D. It is from the feeding of a very large number of infants at this institution that Mr. Mond's deductions are chiefly drawn.

I think it would be impossible to find two more unremitting in their efforts to get at the unvarnished truth on this subject than Mr. R. Mond and Dr. Vincent, and we ought not to object to new light, from whatever source, on this terrible scourge. There is yet a great deal to learn about tuberculosis and tuberculin with its uses and abuses. It is only by an honest receptivity of mind, and a willingness to throw off preconceived ideas, that our small profession has been enabled to make such rapid advancement of late years.

D. PUGH, F.R.C.V.S.

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